How Torrance and other California refineries can be made safer

Aerial view of affected area at the Exxon/Mobil refinery in Torrance following an explosion and fire on Feb. 28, 2015. (Brad Graverson / Staff Photographer)

By Vanessa Allen Sutherland

Posted: 01/14/16, 4:11 PM PST | Updated: on 01/14/2016

The explosion at the ExxonMobil oil refinery in Torrance on Feb. 18, 2015, was bad enough: It had the force of a 1.7-magnitude earthquake, sent out large and damaging projectiles, and blanketed nearby neighborhoods with catalyst dust. It contributed to pushing California's gas prices back past $3 per gallon.

Damaging though it was, however, the explosion was well short of a worst-case scenario for a major petroleum refinery incident in an urban area. At the Torrance refinery, thousands of people live near the facility where they could potentially suffer harm from a major release of a highly dangerous chemical.

Considering these potential dangers is part of the mission of the U.S. Chemical Safety Board (CSB), which has a team of federal investigators working to investigate the explosion.

They found that less than 100 feet from the electrostatic precipitator, a pollution control device that blew apart, was the refinery's alkylation unit, which uses a form of liquid hydrofluoric acid, or HF, to boost the octane rating of gasoline. HF is one of the most hazardous and deadly

chemicals used in petroleum refining. If released into the atmosphere, it can form a dense, toxic, aerosol cloud that can drift over land for several miles or more at concentrations immediately dangerous to life and health.

Major explosions at refineries are unacceptable and require all to evaluate the facts and causes. Incidents like the one in Torrance, and the 2012 Chevron Richmond fire that sent 15,000 nearby residents to hospitals for medical exams, have prompted the state Legislature to propose major refinery safety reforms for California's 14 refineries.

Currently, various regulations prescribe activities that the management of oil refineries must take to operate safely. It is assumed by many regulators that if some of these activities are simply written down, many incidents won't happen. But too often this is a paperwork exercise that does not fully identify hazards and opportunities for safety.

If finalized as currently written, California's new safeguards for oil refineries would strengthen the state's oversight by requiring management to take steps to reduce risks to the greatest extent feasible. And the draft regulations include some important safeguards on the forefront of refinery safety, such as requiring incident monitoring and tracking data.

I eagerly support Gov. Brown and the state Department of Industrial Relations (DIR) for initiating these changes. I believe the actions being taken here in California are some of the most substantial positive safety changes happening right now.

The CSB will continue to monitor developments in California and hope the current language remains as the proposed rule moves through the standards board process.

On Jan. 13, the CSB held a public meeting in Southern California to discuss our investigation into the ExxonMobil refinery accident and hear from a panel of experts on continuing regulatory reform. The meeting included participation from company personnel, government agencies, standard-setting bodies, local emergency planners and responders, environmental groups, and members of the public.

I have always believed that safety is a shared responsibility. For the public to feel safe from low-frequency, high-consequence chemical disasters, we all need to work together collaboratively toward a common purpose.

California can lead the nation in refinery safety.

We all share the same goal: Ensuring that refineries operate more safely. Their workers, neighboring communities, and the public deserve no less.

Vanessa Allen Sutherland is the chairperson of the U.S. Chemical Safety Board, which investigates the root causes of chemical incidents and makes recommendations for prevention.